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SECTION 7 REQUIREMENTS SUMMARY

7.1 REQUIREMENTS SYNOPSIS

Section 7, Requirements Summary, provides a summary of where requirements for the various UC products are described-defined in the UCR-2008.

7.1.1 Overview of Approved Product Categoriess

Figure 7-1 provides an overview of the UC Product Categories within the DoD UC APL.

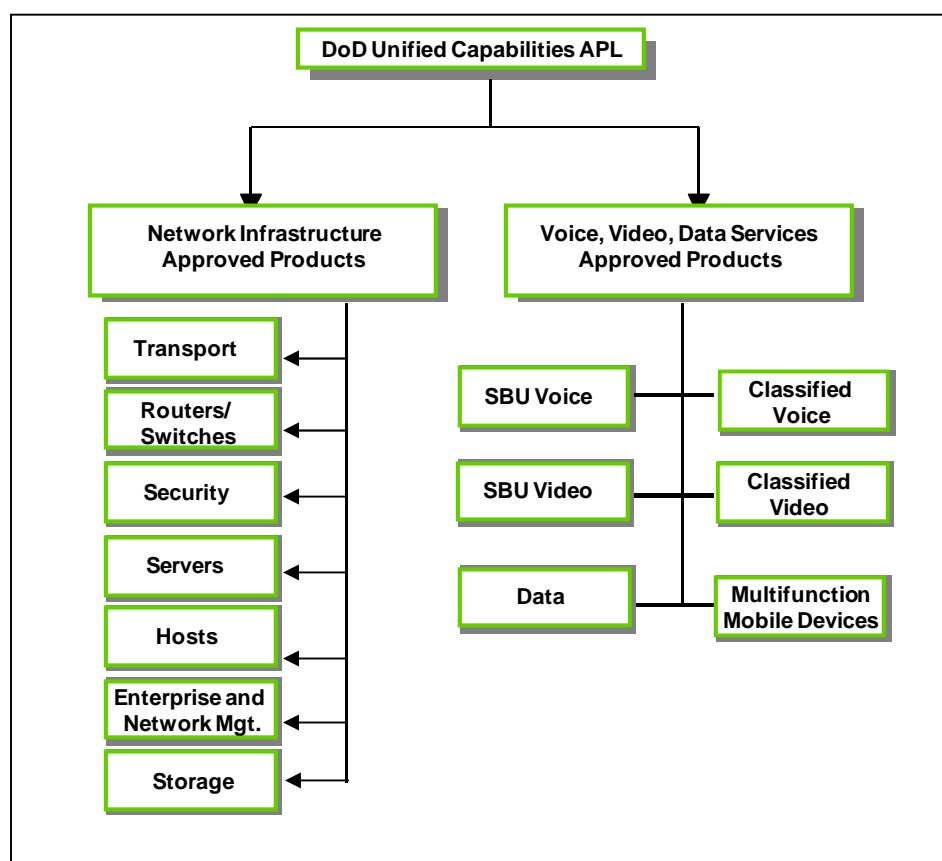


Figure 7-1. Overview of UC Product Categories within the DoD UC APL

The UCR covers a broad variety of product categories and products within those categories that support UC. The two major product categories are network infrastructure and voice, video, and data services consistent with the definition of UC. The UC products fall within two major product categories: Network Infrastructure Approved Products and Voice, Video, Data Services

Approved Products. Within the two major product categories, the following products are defined:

~~UCR covers six categories of approved products as follows:~~

1. The ~~SBU~~ UC products ~~for IP E2E systems~~ that support SBU voice and video services.
- ~~2. Applicable to UCR 2008 only: Circuit-switched products with IP on the line side only that support SBU voice and video services.~~
- ~~32.~~ Classified UC products ~~for IP E2E systems~~ that support classified voice and video services.
3. Data products
4. Multifunction Mobile products
- ~~45.~~ Network infrastructure products (e.g., DISN SDN/MILDEP Intranet and terrestrial transport components products). The ASLAN products, which are Access, Distribution, and Core devices, are a subset of the network infrastructure products Transport products.
- ~~56.~~ ~~Deployed products~~ Routers/Switches.
- ~~6.~~ ~~Encryption products~~ 7. Security products
8. Servers and Hosts
9. Enterprise and network Management
10. Storage Products.

~~Instant Messaging and Chat Collaboration UCs are not considered to be stand-alone UC products; these are applications that create the possibility of real-time text-based communication between two or more participants over the network infrastructure. General requirements for IM and Chat Collaboration applications are described in Section 5.7, Presence/Awareness, Instant Messaging, and Chat Requirements. These UC features are included in the SBU UC products for IP E2E systems that support SBU voice and video services; classified UC products for IP E2E systems that support SBU voice and video services; and in Tactical products.~~

Figure 7-1, Overview of UC Product Categories within the DoD UC APL, provides an overview of the structure of the DoD UC APL in terms of services and network infrastructure. The various UC products for each of the ~~six~~ UC product categories are found under their appropriate section of the UC APL. Many UC products, however, show up under multiple UC product categories

since they can be used under multiple categories. Examples include the LSCs, CE Routers, EBCs, and ASLANs, which can be used for both SBU and Classified voice and video services.

7.1.2 Network Infrastructure Approved Products

This section lists the products for the following Network Infrastructure Approved Products categories:

- Transport
- Routers / Switches
- Security
- Enterprise and Network Management
- Storage
- Hosts*
- Servers*

* There are currently no UC products that the UC Steering Group has approved for inclusion in the Host and Server Categories.

Currently, Data-At-Rest products, Personal Information Integrity (PII)/Data Leakage and HAIPE discovery servers are being assessed for applicability for inclusion with UCR. Table 7.1.2-1 summarizes products in the transport category.

Table 7.1.2-1 Transport Products

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|--|------------------------------------|--|
| <u>Access Grooming Functional (AGF) Device</u> | <u>5.5</u> | <u>Product that receives low-speed circuits on multiple ports and multiplexes them via TDM into a high-speed circuit, and transmits it to one of its high-speed ports.</u> |
| <u>Access Aggregation Function M13 Device</u> | <u>5.5</u> | <u>Product that functionally multiplexes DS1s into a DS3</u> |
| <u>Optical Transport System (OTS)</u> | <u>5.5</u> | <u>Switching product providing high-speed optical transport in the DISN WAN</u> |
| <u>Fixed network Element</u> | <u>5.9</u> | <u>Product that provides transport for bearer and signaling traffic in a fixed network environment.</u> |
| <u>Deployed network Element</u> | <u>5.9</u> | <u>Product that provides transport for bearer and signaling traffic in a deployed network environment</u> |

Table 7.1.2-2 summarizes products in the router/switches category

Table 7.1.2-2 Router/Switches Products

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|-------------------------------|------------------------------------|---|
| <u>Aggregation Router</u> | <u>5.5</u> | <u>Product serving as a port expander for a PE Router</u> |
| <u>Provider Edge Router</u> | <u>5.5</u> | <u>Product providing robust, high-capacity IP routing at the entry points to the DISN WAN</u> |
| <u>Provider Router</u> | <u>5.5</u> | <u>Product providing robust, high-capacity IP routing in the DISN WAN</u> |
| <u>Customer Edge Router</u> | <u>5.3.2</u> | <u>Product providing IP routing towards the DISN WAN at a customer edge</u> |
| <u>Access IP Switch</u> | <u>5.3.1</u> | <u>Product used in a LAN to provide end-device access to the LAN</u> |
| <u>Distribution IP Switch</u> | <u>5.3.1</u> | <u>Product used in a LAN to provide intermediate switching layer between a LAN access and core layers</u> |
| <u>Core IP Switch</u> | <u>5.3.1</u> | <u>Product providing high speed IP switching at the LAN core layer</u> |
| <u>Wireless LAN Equipment</u> | <u>5.3.1</u> | <u>Products used in Wireless LANs: Wireless End Instrument, Wireless LAN Access System, Wireless Access bridges</u> |

Table 7.1.2-3 summarizes products in the security device category

Table 7.1.2-3 Security Device Products

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|--|------------------------------------|--|
| <u>EBC</u> | <u>5.3.2.15, 5.4, 5.3.5, 5.3.4</u> | <u>A product that provides firewall functions for voice traffic (Also Listed under Voice products)</u> |
| <u>Data Firewall</u> | <u>5.8</u> | <u>A product that blocks unauthorized access while permitting authorized communications.</u> |
| <u>VPN Concentrator</u> | <u>5.8</u> | <u>A product that sets up a secure link between an end user and an internal network.</u> |
| <u>Intrusion Protection System (IPS)</u> | <u>5.8</u> | <u>A product that detects unwanted attempts at accessing, manipulating,</u> |

Section 7 –Requirements Summary

| | | |
|---|------------|---|
| | | <u>and/or disabling a computer system.</u> |
| <u>HAIPE</u> | <u>5.6</u> | <u>HAIPE is a programmable IP INFOSEC device with traffic protection, networking, and management features that provide Information Assurance services for IPv4 and IPv6 networks. Encryption algorithms are not specified and are under the authority of NSA.</u> |
| <u>Link Encryptors</u> | <u>5.6</u> | <u>Link Encryptors provide data security in a multitude of NEs, by encrypting point-to-point, netted, broadcast, or high-speed trunks. Encryption algorithms are not specified and are under the authority of NSA.</u> |
| <u>Integrated Security Solution</u> | <u>5.8</u> | <u>A product that provides the functionality of more than one IA device in one integrated device</u> |
| <u>IA Tools</u> | <u>5.8</u> | <u>Products that provide Information Assurance functions</u> |
| <u>Network Access Control</u> | <u>5.8</u> | <u>Products that provide Information Assurance functions</u> |
| LEGEND <u>HAIPE</u> High Assurance Internet Protocol Encryptor <u>FW</u> Firewall <u>INFOSEC</u> Information Security <u>IPS</u> Intrusion Protection System | | <u>IPv4</u> Internet Protocol Version 4 <u>IPv6</u> Internet Protocol Version 6 <u>NSA</u> National Security Agency <u>VPN</u> Virtual Private Network |

Table 7.1.2-4 summarizes products in the enterprise and network management category

Table 7.1.2-4 Enterprise and Network Management Products

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|------------------------------------|------------------------------------|---|
| <u>Element Management System</u> | <u>5.11</u> | <u>For monitoring FCAPS and command elements (products operating in a network).</u> |
| <u>Operational Support Systems</u> | <u>5.11</u> | <u>Manager of element managers for FCAPS and for information sharing.</u> |

Table 7.1.2-5 summarizes products in the storage category

Table 7.1.2-5 Storage Products

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|-----------------------|------------------------------------|---------------------------------|
|-----------------------|------------------------------------|---------------------------------|

| | | |
|---|-----------------------|--|
| Data Storage Controller | 5.10. | Specialized multi-protocol computer system with an attached disk array that together serves in the role of a disk array controller and end-node in B/P/C/S networks. |
|---|-----------------------|--|

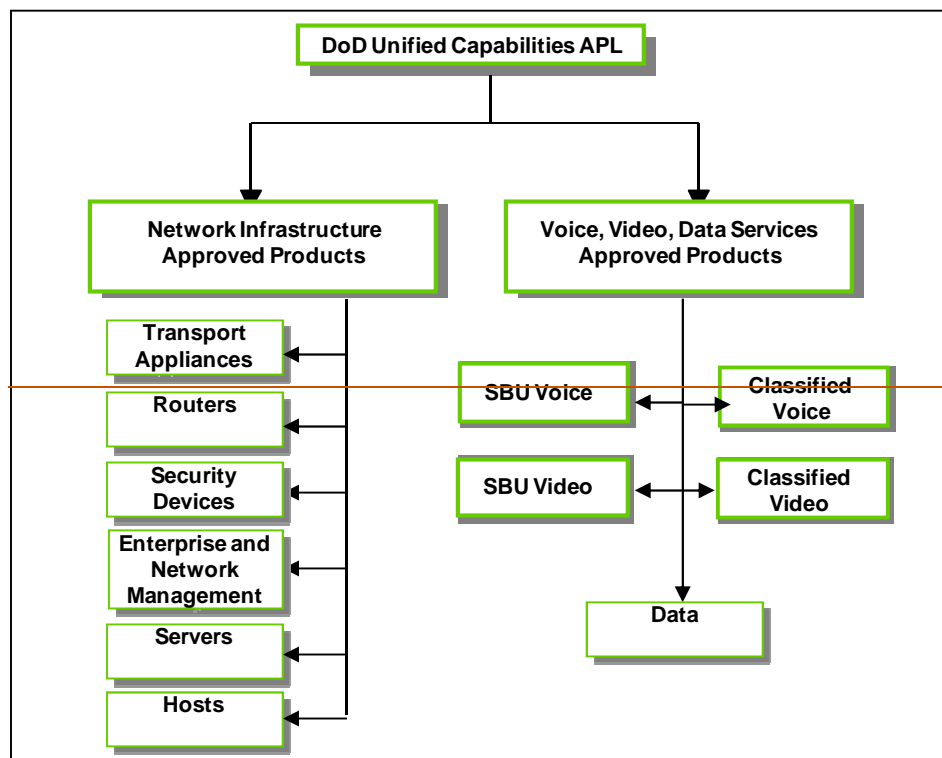


Figure 7-1. Overview of UC Product Categories within the DoD UC APL

7.1.23 SBU UC Products for E2E Systems that Support SBU Voice and Video Services

[Table 7.1.3-1](#), IP-Based UC products that Support SBU Voice and Video Services, delineates the UCR 2008 sections where requirements for these products are found.

Table 7.1.3-1. IP-Based UC Products that Support SBU Voice and Video Services

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| PRODUCT AND APPLIANCE FUNCTION | | GENERAL REQUIREMENTS | INFORMATION ASSURANCE REQUIREMENTS | IPV6 | SIGNALING TYPE | |
|---|-------------------|----------------------|------------------------------------|--------------|----------------|-----------|
| PRODUCT | APPLIANCE | | | | AS-SIP | TDM |
| MFSS | TDM Side | <u>UCR 2008</u> 5.2 | 5.4 | 5.3.5 | | 5.2 |
| | SS Side | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 | 5.3.4 |
| WAN SS | NA | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 | NA |
| LSC | CCA | 5.3.2.9 | 5.4 | 5.3.5 | 5.3.4 | |
| | Media Gateway | 5.3.2.12 | 5.4 | 5.3.5 | 5.3.4 | 5.2 |
| | Signaling Gateway | 5.3.2.13 | | | 5.3.4 | 5.2 |
| AS-SIP EI | NA | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 | NA |
| AS-SIP TDM Gateway | NA | 5.3.2.7.4 | 5.4 | 5.3.5 | 5.3.4 | |
| AS-SIP IP Gateway | NA | 5.3.2.7.5 | 5.4 | 5.3.5 | 5.3.4 | |
| <u>DSMCUMulti-Signaling Conference bridge</u> | <u>NA</u> | 1.4 | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | |
| <u>RTS Routing Database</u> | <u>NA</u> | <u>5.3.2.7.5</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | |
| <u>RTS Stateful Firewall</u> | <u>NA</u> | <u>5.3.2.</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | |
| <u>LAN Access Switch</u> | <u>NA</u> | <u>5.3.1</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | <u>NA</u> |
| <u>LAN Distribution Switch</u> | <u>NA</u> | <u>5.3.1</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | <u>NA</u> |
| <u>LAN Core Switch</u> | <u>NA</u> | <u>5.3.1</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | <u>NA</u> |
| <u>Wireless LAN Products</u> | | <u>5.3.1</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | <u>NA</u> |
| <u>EBC*</u> | NA | 5.3.2.15 | 5.4 | 5.3.5 | 5.3.4 | NA |
| * EBC <u>is</u> Also listed <u>under Security Devices</u> | | | | | | |
| <u>CE Router</u> | <u>NA</u> | <u>5.3.2.14</u> | <u>5.4</u> | <u>5.3.5</u> | <u>5.3.4</u> | <u>NA</u> |

~~7.1.3 — Circuit-Switched Products with IP on the Line Side Only that Support SBU Voice and Video Services~~

~~Circuit-switched products with IP on the line side only that support SBU voice and video services are described in UCR 2008.~~

7.1.44 Classified UC Products for E2E Systems that Support SBU Voice and Video Services

Table 7.1.4-12, Classified UC Products for IP E2E that Support Classified Voice and Video Services, delineates the sections where requirements for these products are found. Classified product requirements consist of general requirements found throughout Section 5.3.2, Assured Services Requirements, plus unique classified requirements found throughout Section 6.2, Unique Classified Unified Capabilities Requirements. The combination of requirements found across Sections 5.3.2 and 6.2 provides the total requirements that apply to the classified products.

Table 7.1.4-21. Classified UC Products for IP E2E that Support Classified Voice and Video Services

| PRODUCT | UNIQUE REQUIREMENTS | GENERAL REQUIREMENTS | IA REQUIREMENTS | IPV6 | AS-SIP |
|-------------------------|---------------------|----------------------|-----------------|-------|---------------|
| Tier0 SS | 6.2 | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 |
| DSSS | 6.2 | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 |
| LSC | 6.2 | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 and 6.2 |
| LAN Access Switch | NA | 5.3.1 | 5.4 | 5.3.5 | 5.3.4 |
| LAN Distribution Switch | NA | 5.3.1 | 5.4 | 5.3.5 | 5.3.4 |
| LAN Core Switch | NA | 5.3.1 | 5.4 | 5.3.5 | 5.3.4 |
| EBC | NA | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 |
| CE Router | NA | 5.3.2 | 5.4 | 5.3.5 | 5.3.4 |

7.1.55 DRSN Switches and Peripheral Devices

Requirements for TDM-based DRSN equipment are not included in [the UCR-2008](#). Specifications for DRSN products are available on a need to know basis from the DISA NS DRSN Single Service Manager.

7.1.6 Multifunction Mobile Devices.

A Multifunction mobile device, or “Smartphone End Instrument” is defined as an application that provides End Instrument (EI) or AS-SIP End Instrument (AEI) functions. However, unlike a traditional EI, this is an application that operates within the confines of an advanced, mobile computing platform (e.g. a smartphone, PDA, wireless tablet, etc.) which provides functionality beyond just basic telephony services. Table 7.1.6-1 delineates the section where multifunction

mobile device requirements are found. Security requirements rather than functional requirements are specified for these devices .

Table 7.1.6-1 Multifunction Mobile Devices

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|--------------------------------------|--|--|
| <u>Classified Multi Media Device</u> | <u>5.4</u> | <u>Integrated voice, video and data services that operate at multiple security levels over a hand held device with wireless secure connectivity to the network (pull definition from #10) e.g., SME PED, smartphones</u> |
| <u>SBU Multi Media Device</u> | <u>5.4</u> | <u>Integrated voice, video and data services that operate at an SBU security level only over a hand held device with wireless secure connectivity to the network (e.g., SME PED, smartphones)</u> |

7.1.7 Data Category Products

Data category products can include various combinations of the following data applications:

- E-mail/calendaring
- Unified messaging
- Web conferencing and web collaboration
- Unified conferencing
- Instant messaging and chat
- Rich presence

These data applications are features of UC Tool Suites and are considered to be data UC products. In addition, these data applications can be network aware in order to get enhanced quality of service treatment on DoD networks. In those cases, the interface is specified for interoperability but the performance (e.g., response time, screen refresh rate) of the applications are not currently specified. These UC Tool Suites can be integrated with voice and video services in order to get assured services as well as QoS. Examples would be LSCs that include voice, video and XMPP functionality as well as unified messaging. Table 7.1.7-1 lists the data category products.

Table 7.1.7-1 Data Category Products

| <u>Product</u> | <u>Requirements Section</u> | <u>Role and Function</u> |
|---------------------------|--|---|
| <u>UC Tool Suite with</u> | <u>5.7</u> | <u>Integrated voice, video and data</u> |

| | | |
|--|--|---|
| <u>specific features identified (XMPP Server, XMPP Client)</u> | | <u>services that operate at various security levels over a hand held device with wireless secure connectivity to the network or a desktop device with secure connectivity to the network.</u> |
|--|--|---|

7.1.6 — DISN Network Infrastructure Products

Table 7-3 delineates the network infrastructure UC products, which can be used by all MILDEPs for their Intranets. These UC products do not currently include data firewalls but will in future updates.

Table 7-3. DISN Network Infrastructure UC Product Categories

| ITEM | REQUIREMENTS SECTION | ROLE AND FUNCTIONS |
|--|----------------------|--|
| M13 | 5.5 | System providing access to the DISN WAN from the Edge by multiplexing lower bandwidth connections to higher speed circuits |
| MSPP | 5.5 | System providing access to the DISN WAN from the Edge by multiplexing lower bandwidth connections to higher speed circuits |
| Aggregation Router | 5.5 | System serving as a port expander for a PE Router |
| Provider Edge Router | 5.5 | System providing robust, high capacity IP routing at the entry points to the DISN WAN |
| Provider Router | 5.5 | System providing robust, high capacity IP routing in the DISN WAN |
| Optical Switch | 5.5 | Switching system providing high speed optical transport in the DISN WAN |
| LEGEND DISN — Defense Information Systems Network IP — Internet Protocol MSPP — Multi-Service Provisioning Platforms PE — Provider Edge WAN — Wide Area Network | | |

7.1.78 Deployed UC Products

Table 7.1.8-41 delineates the Deployed UC products. Deployed switching system requirements consist of general requirements found throughout UCR 2008, Section 5.2, Circuit-Switched Capabilities and Features, plus unique Deployed requirements found throughout Section 6.1.3, Deployable Voice Exchanges. The combination of requirements found throughout UCR 2008, Sections 5.2 and the current UCR Section 6.1 provides the total requirements that apply to the Deployed products.

Table 7.1.8-41. Deployed UC Product Categories and Paragraph Reference

Section 7 –Requirements Summary

| PRODUCT | GENERAL REQUIREMENTS SECTION | UNIQUE REQUIREMENTS SECTION | ROLE AND FUNCTIONS |
|--|---------------------------------|-----------------------------|---|
| DVX-C | UCR 2008 5.2 | 6.1.3 | Deployed voice switch with ASF capabilities to support assured service requirements. This switch is used for rapid deployment situations and contingencies in the Deployed environment. |
| DVX Legacy (DVX-L) | UCR 2008 5.25.2 | 6.1.3 | Deployed voice switch with ASF capabilities to support assured service requirements. This switch is part of the TRI-TAC systems and thus termed Legacy. |
| Deployable DSN PBX1 | UCR 2008 5.25.2 | 6.1.3 | A DSN PBX1 used in the Deployed arena. When used in the Deployed arena, the PBX1 is connected to a DSN EO through a STEP/Teleport |
| Deployed Network Elements | NA | 9.3 | Network elements used in the deployed environment. |
| Deployed LANs | 5.3.1 | 5,3,1 and 6.1.5 | LAN used in the deployed environment |
| Deployed Tactical Radio | 6.1.7 | 6.1.7 | Radio systems used in the deployed environment. |
| DCVX | NA | 6.1.6 | Deployed cellular system with ASF capabilities to support assured service requirements. This system is used for rapid deployment situations and contingencies. |
| LEGEND ASF Assured Services Features COTS Commercial Off-the-Shelf DCVX Deployed Cellular Voice Exchange DSNY Defense Switched Network DVX Deployable Voice Exchange DVX-C Deployable Voice Exchange–COTS DVX-L Deployable Voice Exchange–Legacy EO End Office LAN Local Area Network PBX1 Private Branch Exchange 1 STEP Standardized Tactical Entry Point TRI-TAC Tri-Service Tactical Communications | | | |

7.1.8 — Security Devices

~~Table 7-5, Security Devices and Paragraph Reference, summarizes the security products used in the IP environment. The requirements for encryption products are found in UCR 2008, Section 5.6, Generic Encryption Device Requirements.~~

~~Table 7-5. Security Devices and Paragraph Reference~~

Section 7 –Requirements Summary

| ITEM | REQUIREMENTS SECTION | ROLE AND FUNCTIONS |
|--|----------------------|---|
| HAiPE | 5.6 | HAiPE is a programmable IP-INFOSEC device with traffic protection, networking, and management features that provide IA services for IPv4 and IPv6 networks. |
| Link Encryptors | 5.6 | Link encryptors provide data security in a multitude of network elements by encrypting point-to-point, netted, broadcast, or high-speed trunks. |
| Firewalls | 5.8 | A System that blocks unauthorized access while permitting authorized communications |
| Intrusion Protection System (IPS) | 5.8 | A system that detects and protects against unwanted attempts at accessing, manipulating and/or disabling an IT system |
| VPN Concentrator and Terminations | 5.8 | A device that sets up a secure link between an external end-user and an internal network |
| LEGEND HAIPE — High Assurance Internet Protocol Encryptor IA — Information Assurance INFOSEC — Information Security IPv4 — Internet Protocol Version 4 IPv6 — Internet Protocol Version 6 | | |